1: Burrows--1 (1947-48) Woleaians
116, 131, 101, 171 Ifalik 1-2

"Ifalik is an atoll in the Caroline Islands at 7° 15' north latitude and 147° east longitude. It lies nearly midway between Yap, 400 miles to the west-northwest, and Truk, nearly due east. Guam, in the Marianas, administrative center for the whole Trust Territory of the Pacific Islands, is about 350 miles north of Ifalik. (Fig. 1).

The ocean for 100 miles around is dotted with other atolls and reefs, making up what has sometimes been called the Woleai district, though administered as part of Yap district. Woleai, 30 miles west of Ifalik, is considered the most important atoll of the group because it has the largest lagoon and largest population. Eight of these atolls are now inhabited: Woleai, Ifalik, Faraulep, Lamotrek, Elato, Satawal, Eaurupik, and Sorol. Olimarao was formerly inhabited, and some of the others may have been.

The people of all these islands seem to be so nearly alike in language and culture as to constitute a cultural unit which differs perceptibly, though slightly, even from Fais and Ulithi to the northwest. Differences between them and their closest neighbors are too slight to justify use of the term 'culture area' for the Woleai district. 'Sub-area' would be more precise. A hasty test of these similarities was possible during brief stops at several of the islands on the return trip from Ifalik. Dialect, clan names, and the more obvious features of material culture seemed to be the same until we came to Satawal, the easternmost island visited. Here differences began to appear. For instance, the 'tr' of Ifalik was replaced, at least in some words, by 'ch'; and several clan names were different. Sorol, westernmost of the atolls generally included in the

sub-area, was not visited. It seems safe to say that this account of the native culture of Ifalik will hold true, in a general way, for the other atolls. But the similarity does not extend to all details. Sea-burial, for example, seems to be exclusively an Ifalik custom. The people of Faraulep are said to use for food a small land-shell not eaten on Ifalik. And so on.

For all practical purposes, the main differences probably reflect difference in contact with foreigners. Ifalik was chosen for study because it has had a minimum of outside influence. Woleai represents the maximum. A missionary worked there in the 19th Century. The Japanese built an air-strip there during World War II. The Americans bombed the air-strip, and for a time at the close of the war, a few Americans were stationed there to maintain a LORAN station. A useful supplement to the Ifalik material would be a study of change on Woleai due to this contact."

2: Damm et al. --4-5-116, 131 (1909) 1938 Woleaians-1-2 Ifaluk

Lütke was the first to pay attention to the cartography of this atoll (1828). His chart [AN: see source] corresponds generally to the picture as it is today. But the northern part of the atoll is not correctly drawn, as Lütke sailed south. He shows the northwestern portion of the main island as a separate isle, Fararyk, which joins a large island, Ifalouk; in reality, both of them form the big Feladjik. On the other hand, the location of the two others, which he calls [5] Moay and Ella, is accurate. The Japanese Government Chart of 1925, Number 772, shows the most recent drawing of the atoll [AN: see source].

Location and Size

According to Cheyne, the diameter of the reef encircling the lagoon is about two miles. He estimates the circumference of the group as 5-6 miles, including the reef. With that he is considerably more exact than Meinicke *, who gives the circumference as "over a mile."

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* Meinicke, Die Inseln. . . . , II, page 358. His figures are quite different from the other sources; for instance, he says that the group is 5 miles from Oleai, while the latest statement of the [AN: British] Pacific Islands Pilot (1933, 1, page 502) gives it as 30 miles. The difference may be explained by the fact that Meinicke reckons with geographic miles, while the other sources use nautical miles.

The following table gives the latitudes and longitudes of the various sources:

Year	Discoverer and Traveler	lat. N	long. E
1797	Wilson	7° 14′	144° 50′
1828	Lütke	7° 15′17″	215° 29′8″
	Raper	7° 14′	144° 30′
1844	Cheyne	7° 11′	145° 8′
	Gulick	7° 15′	144° 31′
1888	Meinicke	7° 15′	144° 31′
	Sievers	7° 15′	144° 31′
1920	Kolonial Lexikon	7° 15′	144° 31′
1925	Japanese Government Chart	7° 14′19″	144° 25′20″
			to 144° 27′13″

2: Damm et al, --109-110 (1909) 1938 · Woleaians-1-2
116, 175, 131 Aurupik

Like the majority of the Central Caroline Islands, Aurepik was introduced to Europe through the letter which Father Clain wrote on the 10th of June, 1697; he called the island Yaropie, but it is not mentioned on the map that was included with his letter. If we accept the statement of Krämer, who has made a critical study of the history of the discovery of Micronesia, we find that our island appeared for the first time on the chart of Pilot Somera, who was under Captain Don Francisco de Padilla in 1710. And Krämer believes that his Isla de Casa (House Island) is the same as Aurepik, on account of the peculiar houses on stone terraces, which give the island its characteristic cachet, and make an indelible impression on the visitor. On Cantova's native chart (1721) the atoll is called Eurrupuc, and it reappears under this name on Vaugondys's map (1756).

The information that we find in the Kolonial Lexicon (Vol. I, page 98): "Aurepik was discovered by Hunter in 1791, "is not correct, and it probably goes back to Gulick (1867, page 59). It is doubtless explained by a misunderstanding of Chamisso (Bemerkungen und Ansichten, page 104), who writes: "Compare the Phillip Islands of Captain Hunter, 1791 and the two islands of 1791, to which we have already referred as Eurïpïik." However, he did not want to identify it with this group, for on page 98 he mentions it as a separate cluster, which joins Aurepik. I think that Brigham (page 148) is much more exact, when he identifies the Phillips Islands with Sorol. [110]

On the 12th of April 1828, Lütke sighted the Island Eourypyg from the west (Kittlitz:

Eurupyk), but he did not land, and continued his northern route. Although there were a number of boats on the beach, the natives did not come to the ship. Von Kittlitz explains this by attributing it to a tabu laid on the boats, during a yearly festival. In September 1844, Andrew Cheyne visited the island, and on the 25th of March 1876, von Miklucho-Maclay touched the group as he came north on the little trading vessel "Sea Bird," but he did not go on shore.

On the 31st of October, 1909, the expedition ship, the "Peiho" of the Hamburg South Sea Expedition, put Sarfert on land, and he stayed here until the second of November. At that time the "Scott" came from Yap to the island occasionally, and then the Japanese also called here once in a while.

2: Damm et al. --111 [2] (1909) 1938 Woleaians
116, 131, 177 Aurupik

Lütke made the first exact cartography of the island (1828), but he only saw the archipelago from a distance*, and so he could only give an approximate picture of it. The various Naval Staff charts of the seafaring powers do not give any exact picture of the group either; the first officer Lorenzen of the "Peiho" was the first to survey it and to make a map (see Fig. 183).

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* Cheyne (1852, page 138) says that you can see the islands at a distance of 12-13 miles from the ship's deck.

Lütke's chart [VMM: see source 2: p. 110, drawing 181] gives an accurate reproduction of the oval form of this atoll; Cheyne also describes it in this way, and he gives the largest diameter of the lagoon as 2 1/2 miles in the ESE-WNW direction. Meinicke says that Aurepik is "a small lagoon island half a mile long," but in reality Lorenzen's map shows that it is 5 1/2 sea miles long. The following table gives the latitudes and longitudes of the different sources: [113]

Year	Discoverer and Traveller	lat. N	long. E
1828	Lütke	6° 39' 44"	216° 49' 2"
	Horsburgh	6° 40'	143° 11'
1844	Cheyne	6° 35'	142° 59'
	Raper	6° 40'	143° 11'
1900	Brigham	6° 40'	143° 10'
1910	Sievers	6° 43'	143° 10'
1920	Kolonial-Lexicon	6° 42'	143° 6'
1925	Japanese Government Chart	6° 41' 12"	143° 4' 49"

In the text, both Lütke and von Kittlitz mention two islands, but Lütke's map shows four.* Cheyne also speaks of two low coral islands; he says that the eastern one, or the main island, is inhabited, and that each one is about a mile long. Meinicke also seems to have utilized one of these sources; perhaps he referred to Cheyne, because he, too, only knows about two little islands on the northern side, of which just the eastern one is inhabited. Miklucho-Maclay claims to have seen three little islands. Sievers gives the same number, and he is correct in stating that two of them are settled. In reality, the reef girdle of the group is studded with five islands: Aurepik, Uau, Ellanidigit, Bägefas, Sidene, but only the main island, Aurepik, on the eastern end of the atoll, and the second largest one, Uau, which lies farthest west, are inhabited. On the southern side of the big island is a landing place that canoes can use at high tide. The table shows the various spellings of the different island names:[114]

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* Lutke 1835, Volume II, page 148; von Kittlitz, Vol. II, page 163. The difference between the text and the map may be explained by the fact that Lütke knew that two of the islands were uninhabited, and so he did not refer to them in the text.

2; Damm et al. --112-114 (1909) 1938 Woleaians-3
116, 131 Aurupik

Sievers:	Reichsmarineamt:	Sarfert:	Lorenzen:	Japanese Chart:
Aurepik	Aurepik	Aurepik	Aurepiik	Eauripik
Uau	Oäo	Uäu	Oäo	Oao
		Ellanidigit	Elangkilekit	Elangkileku
		Bägefäs	Behefas	Bekefas
Siting		Sidene	Sitong	Siteng

2; Damm et al. --154 (1909) 1938 Woleaians
116, 131 Faraulep

Lütke made the first drawing of this island group. This has served as a basis for all the subsequent island maps (Pacific Islands Pilot, 1933, Japanese Government Chart 1925). Location and Size. The following table gives the various measurements:

	lat. N	long. E
v. Chamisso (in v. Kotzebue 1821 Book 3, page 94)	8° 3′	144° 30′
Lütke (according to the map)	8° 34′57″	215° 32′45″
Meinicke (1888 Book 2, page 358)	8° 35′	144° 36′
Gulick (1862 page 59)	8° 34′	144° 37′
Brigham (1900 page 64)	8° 36′	144° 36′
Sievers (1900 Book 2, page 364)	8° 40′	144° 35′
Kolonial Lexicon (Book I, page 600; most southern island)	8° 35′	144° 36′
Japanese Chart 1925	8° 35′45″	144° 33′16″

2: Damm et al. --155 [2] (1909) 1938 Woleaians
116, 131, 161 Faraulep

The atoll consists of three islands: the large Faraulip, and the second Pfx (Piko [Hambruch], Pig [Reichsmarineant], Pigue [Pacific Islands Pilot]), both of these are inhabited; the smallest island and the one farthest south, Eäd (Eatto [Hambruch], Eat [Reichsmarineant], Eate [Meinicke, Pacific Islands Pilot, Japanese Chart]) was formerly inhabited also, according to Hambruch, but since the devastations of a typhoon it has never been resettled.

The lagoon is accessible on the southern side by three narrow channels, which are only large enough for canoes.

The natives gave Hambruch the following data: a) islands: 1. Faraulip, 2. Pfx, 3. Eâd; b) oceans: 4. lamm; 5. nuguluorro; c) reefs: 6. mädonneï-jefan; 7. fall lipig; 8. furoú; 9 and 10 pallepall; 11. thawuorrŏ; 12. madonneijôu; d) channels: 13. tâualiăp; 14. tâuuleuleă; 15. tâuegiddegidd.

3: Thilenius and Hellwig--260 (1909-10) 1927 Woleaians
116, 131, 137, 484 Elato

Elato is the largest of the four islands which rest upon the reef that extends itself in a north-southern direction. Elato, situated to the north, is densely covered with forests; breadfruit trees and coconut palms predominate.... The natives [AN: who had come in canoes with trading intentions] did not look very trustworthy. They were importunate and begged constantly for tobacco,... Trading attempts were made, but the prices were too high and consequently only a few objects could be bought.... On certain stretches the breadfruit trees reminded us of a German forest. On other places attention was drawn to thickets of Hibiscus which supply the textile fibers for mats and waistcloths.

4: Krämer-1 (1909) 1937 Woleaians
116, 131 Lamotrek

1. Notes from the Sailing Directions Südsee-Handbuch and British Pacific Islands Pilot (1933).

Position: Lamotrek in the middle approximately at Lat. 7° 27' N. and Long. 146° 23' East, and Elato exactly at Lat. 7° 29' 30" N. and Long. 146° 19' East; The Pacific Islands Pilot gives it as 7° 28' and 146° 24'.

Südsee-Handbuch, page 34: The Lámutrik Islands (Lamotrek, Swede) are located approximately 42 nautical miles west of Sátuwal on a triangular atoll. The corner of the triangle in the southeast is the island of Lámutrik, and in the north the island of Puch, and in the west the island of Falaite; the latter two are uninhabited. In the center of Lámutrik, we have a swamp, where taro and sugar-cane grow. On Lámutrik there is a trading station of the Westkarolinengesellschaft which is directed by a white dealer.

There are several entrance passages into the lagoon. The best is the passage southeast of Puch; the channel further to the southeast and closer to the island of Lámutrik is dangerous owing to the cliffs in the lagoon at that point. In the south of the atoll there are a number of inferior boat passages in addition to one good one.

There are anchorages in the lagoon.

4: Krämer--3 (1909) 1937 Woleaians
116, 131 Elato

[MR: From the Südsee-Handbuch, p. 34]: The Elato Islands, approximately 5 nautical miles from Lámutrik, are located on a reef extending north-south and having a length of 4 nautical miles. The group consists of four islands of which Elato in the north is the largest.

4: Krämer--3 (1909) 1937 Woleaians
116, 131 Elato

[MR: From the Südsee-Handbuch, p. 34]: The entrance passage to the [MR: Elato] lagoon is in the east; it is approximately 90 meters wide and the water is 9 to 11 meters deep.

Anchorages: The British warship "Sphinx" threw anchor in February 1862 in the lagoon in a depth of 20 meters. The anchoring place was located about 1/2 a nautical mile south of the western tip of the island of Elato. Here the ship stayed for 10 days and cut firewood. Water was provided by digging pits.

4: Krämer--3 (1909) 1937 Woleaians
116, 131 Elato

[MR: From the Südsee-Handbuch, p. 34]: Taos and Uler are located south of the Elato Islands on a reef separated from that of the others.

In this connection see the special plan on map 93 of the Reichsmarineamt of 1903, in the upper right hand corner.

4: Krämer--3
116, 131, 161

(1909) 1937

Woleaians
Olimarao

[MR: From the Südsee-Handbuch p. 34]: The Olimaráu Islands (Hambruch: Olimaraue, story 2 of Füs) are located northeast of the Elato Islands; they are uninhabited. To this group belong the two islands of Olimaráu and Falipi. The former is located in the northeast and the latter in the southwest of the same reef.

4: Krämer--3-4 (1909) 1937 Woleaians
116, 131, 161 Lamotrek

Pacific Islands Pilot, Vol. I, page 504: The Lamotrek Islands, approximately 5 miles east of the Elato Islands consist of 3 weeded islets on a triangular atoll. The island of Lamotrek, with an elevation of 107 feet (32.6 meters) up to the tops of the trees, is located at the extreme eastern tip of the atoll. The passage approximately 3/4 of a mile south of Puguet Island, the northernmost of the islands, is the widest and best of those leading into the lagoon. During the time of the northeastern winds the high seas set through it into the lagoon and special care is necessary. There is an entrance in the middle of the south side of the atoll; it has a width of about 2 cable lengths. This entrance is hard to find but is good when the winds are strong. Westward of the latter there is another entrance which is approximately 1-1/2 cable lengths in width. All the other entrances are narrow. [4]

Off the western side of Lamotrek (Lat. 7° 28' N and Long. 146° 24' E.) there is an anchorage with shelter from northeast winds, but it is reported that when westerly winds are blowing the sea may become rather high. Landings are possible on the sandy beach at the western side of Lamotrek Island. In 1930 Lamotrek had a population of 165 including one Japanese.

The islands of Pugue and Falaite were uninhabited. There is little fowl and few pigs, but fish are abundant.

The largest and at the same time the principal island of Lámotrek does not have a special name, but is called after the lagoon, at the eastern end of which it is located. From S to N it is approximately 1250 meters long and in the middle it is a little over 700 meters wide. From south to north it becomes narrower in form. The northern cape is called Lugliong. In the west of the northern half, at the inland water, there is a bay which serves as a landing place. Here the village is located. A sketch map of the island was made between November 20-26, 1909 by the First Officer of the "Peiho" [MR: see 4: Krämer 15]. It showed the relative depths of the bay; its southern cape is [16] called Paliauei, whereas the northern corner is known as Uŏlebugui, "at the corner." [MR: see house 30 on map 3. 4: Krämer 18]

A sandbank separates the bay from the approximately 30-meter-deep lagoon; the sandbank from north to south has depths of 9, 3, 7, 12, 14 and 16 meters; inland from the sandbank the depth is 19 meters, which quickly decreases towards the land. This depth is called Mólog as the plan of the settlement on map 3 shows; southward it ends in a boat canal tauali vá. Thus conditions are similar to those of the eastern basin of the Onoun atoll at the island of Pisaras, except that the latter is much smaller than Lámotrek and projects eastward out of the line of the encircling ring.... The settlement is located inside the western bend [MR: of the bay] in a wide swinging arch. Inside the latter, in the

south, there is a small additional bay; it is less obvious on map 3 but is definitely shown on plate 1b [MR: 4: Krämer 413, Plate 1b]. Here the boathouse Aboi in which we stayed is located. Southward the bay ends in the wide sandy beach of cape Paliauei, where the Faktaipu and the house of the trader Lewis are located.

In the east: a. Lamotrek...or Namotrek, correctly Lamodjek...from lámo or namo, "the lagoon"; it is called trek, tjek, "small," although it is the largest of the three and longer (7 nautical miles) than Oleai which has a length of only 5-1/2 nautical miles. But it is shorter than well known Mokemok in the west, which from south to north measures about 20 nautical miles. Sometimes it is said that rek is the same word as rak, the season, i.e. the season, because the weather is always good; in that case it remains unexplained.

b. Falaite...in the west of the atoll; more correctly called Faleit or in former times Faleitabut; the word is derived from feiabut "unlucky child," because in the past the people on the island were wild; at the present time Falaite is uninhabited.

c. Puch...Pik small island in the north of the ring and usually pronounced Búiug; the word is derived from buik "boy" (Palau) and also sounded like it. Puch is uninhabited. In the east of the island is the good entrance Taualibúiug and in the west the boat passage Metaliár. Between Pik and the main island there is another entrance which on map 93 [MR: of the Reichsmarineamt 1903] is called the "dangerous entrance" [MR: 4: Krämer 2] [17]

Sailing southeast in the lagoon on the reef east of this entrance and on the southern side one comes to a projection of the reef which is covered with sand. It is the sandy cape of Mongalepi. If one draws a line from here southward which crosses the inland water and

reaches the southern reef--formerly at the rock Faisar (which disappeared in the last typhoon)--one gets the sósor boundary... which is the western limit of the district of the island of Lamotrek. East of the line no taboos need to be observed, but west of it one must fast if one sails early in the morning westward across the boundary. Smoking, too, is forbidden under such circumstances.

4: Krämer--17 (1909) 1937 Woleaians
116, 103, 131 Elato

Elato, sometimes simply pronounced Elat, because that is the word used for the seaweed after which the atoll and the main island are called; the latter is located in the north of the reef. The reef is reniform and has a bay opening to the east with a boat entrance into a small lagoon, which occupies only the northern part (Japanese map [MR: of 1925 on which the Admiralty map 772 was based]). In the southern part, which is separated from the northern, there seems to be little inland water. At the southern end the sandy island of Falipi is located; in the center (East). The island of the German map [MR: map 93 of the Reichsmarineamt of 1903] in the middle (w)Oletel (Hambruch: Oletul). Kari (Hambruch: Kare Reef) and Tamas are not given on the Japanese map. Hambruch, in addition, mentions Merekang "sharp point," Toeirul "calm quiet water" and Oilipi "on the sand."

Lamolior is uninhabited and located 2 nautical miles south of the atoll of Elat. "Lagoon of the south" with the islands of Toas and Olor (German map: Ulor).

4: Krämer--183
116, 103, 131, 161

(1909) 1937

Woleaians
Woleai

OLEAÍ

(Map 4) [VMM: See 4: Krämer 184]

Position: halfway between Lat. 7° 21' N. and Long. 143° 55' E.

Exact position: northern tip of Raur, Lat. 7° 21' 39" N. and Long. 143° 57' 30" E.

Südsee-Handbuch, page 36: The Oleai Islands (Oleai, Uleai, Wolea, Ulie, Anangai) are located approximately 130 nautical miles west of the Elato Islands. The group comprises two atolls which surround a western and an eastern lagoon. The former is larger, but the bigger islands are grouped around the eastern lagoon. The main island of Flalap, located on the northern side of the eastern lagoon, gradually is connected with the island of Marijong (Mariom) by means of a sand dune which follows in the west; this same sort of bridge exists also with Paliau located to the southeast, which in turn is linked to Raur in the south. The group is formed of 19 islands--some of them large and some of them small--only the eight largest are inhabited, whereas the others exhibit a luxuriant growth of coconut palms and tall breadfruit trees. The names of the inhabited islands are Raur, Flalap (Oleái), Marijong, Tagaulap, Saliap, Utagal and Falalis.

4: Krämer--185 (1909) 1937 Woleaians
116, 131, 175 Woleai

Vanished Islands: The islands of Pial, Komol, and Falulap have been washed away according to the report of S. M. S. "Cormoran" of 1912.

4: Krämer--186 (1909) 1937 Woleaians
116, 131 Woleai

Pacific Islands Pilot, page 501: The Woleai or Anangai Islands are located approximately 60 miles northeast of the Eauripik Islands. The southern side of the atoll is largely submerged and is divided into two lagoons by means of a series of reefs extending southeastward from the island of Tagaulap (Lat. 7° 22' N. and Long. [ER: original text reads Lat.] 143° 53' E). The western lagoon of the Woleai Islands is wide and in general deep although it has scattered shoals. The entrance to it is shallow and large ships cannot pass through it. Both lagoons are open to the south and fully exposed to the heavy seas caused by the southwest monsoon. A sandy cay [sic] is located on the reef on the southern side of the atoll approximately 1 1/2 miles from Tagaulap.

4: Krämer--186-188 (1909) 1937 Woleaians-1 · 3
116, 131 Woleai

Entrances. The Raur Channel leads into the southern part of the eastern lagoon. It is approximately 2 1/4 cable lengths in width, as it runs between reefs extending southwest of the southern end of Raur and surrounding the island of Motogozu. It has depths from 10-25 fathoms (18.3-45.7 meters) in the fairway, but there might be less water in the approach. The western channel at the southwestern side of the west lagoon just southeast of the island of Falulap and in the center has a rock with a depth of 3 1/2 fathoms (6.4 meters) of water. The North Channel at the northeastern side of the west lagoon between the islands of Farailes and Jalangigereil, --southeast of the latter--is approximately one cable length wide between the reefs that extend on both sides and has depths of from three to seven fathoms (5.5-12.8 meters).

There is one additional entrance between the reefs extending from the eastern end of Tagaulap and the southern end of Mariaon, but it is narrow and the tidal currents in it are strong so that it [187] is practicable only for small boats (Marion Entrance).

Shoals: there are many in the western lagoon and they have been chartered. In the east lagoon there is a series of shoals with depths from 1-6 fathoms (1.8-11 meters) located about 8 cable lengths southeast of Mariaon Island. A rock with a depth of 2 fathoms (3.7 meters) is located approximately 2 3/4 cable lengths southwest of the southwesternmost end of the banks and another one, with a depth of two fathoms, is found 3 1/4 cable lengths north of the southern end of Raur.

Anchorages. Large ships may drop anchor in the eastern lagoon in depths of from

fifteen to twenty fathoms (27.4-36.6 meters); here fine sand and good protection are found approximately 4 1/2 cable lengths west of the northern part of Raur.

Small boats can drop anchor at the time of the southwest monsoon opposite to the southeastern side of Mariaon and also opposite to the northern side of the island of Tagaulap (Lat. 7° 22' N. and Long. 143° 53' E.).

In this connection compare map 772 [VMM: see 4: Krämer 184]

This map, as compared with the earlier ones... the Russian and the German ones which, in general, are in agreement gives the results of better soundings, especially of the western lagoon and its northern part. It also shows the extent of the southern barrier of the reef which hitherto had not been determined. The Russian line of soundings from Tagaulap south-south-westward, east-northeast of Falalis, the southernmost of the islands, had indicated the barrier, because here the depth of the lagoon had decreased to about 10 meters from an approximate depth of 40 meters. The new English map no. 772 shows a formation about 2 kilometers in length trending ENE from Falalis; between its eastern submarine end and the isolated sandy cay [sic] reef, there is a depression which I call Falalis Channel; the depth of this channel is 5.3-16 fathoms (9.5-31 meters).

Another new feature of the map is the sandy cay [sic] reef mentioned (on the German map it is indicated only superficially) on which a sandy islet is found straight south of

the western tip of Tagaulap and at a distance of 2 1/2 kilometers from it; the same is true of the isolated reef that follows in an easterly direction and on which the island of Motogosu is located. Between the two there is an entrance with a depth of approximately 7 fathoms(13 meters) which I call the Middle Channel; through it large ships can sail into the west and east lagoon, or better said, they could if the margins of the various reefs were marked by beacons. Hitherto the above-mentioned Raur Channel has been used for entrance into the east lagoon; our expedition ship went through it, since it and the east lagoon have been sounded with all necessary accuracy. [188] This is the location of the largest and most important island of the Oleai group which has given the name to it. The west lagoon is two or three times the size of the east lagoon and is less narrowed by shoals. The middle basin has a depth of 20-27 fathoms (36.5-49.5 meters); sandbanks are confined to the margins: there are two in the southeast (near the sand cay [sic] reef) which have a depth of 4.1 fathoms (7.5 meters), one in the northeast with a depth of 5.3 fathoms (9.5 meters) and a few smaller ones also in the northeast and southeast. It is noteworthy that no mention is made of the destruction of Raur... and the map has Raur and Paliau charted according to their appearance before 1907.

Bearings: in the south of Raur and about one nautical mile off the island, 216 fathoms (389 meters); at the same distance from Motogosu approximately 2 kilometers to the south 347 fathoms (625 meters): about 400 meters in front of the exit from the West Channel 168 fathoms (300 meters), whereas 500 meters to the south of that location the depth is no more than 20 fathoms. (36 meters).

4: Krämer--189 (1909) 1937 Woleaians
116, 131 Woleai

James Wilson: [VMM: who discovered Oleai in 1797 said]

"At a distance of one mile we sounded the two ends in NW 1/2 W to W to N 1/2 E from which we were able to arrive at an estimate of their extent. The latitude of their southern part is 7° 16' and 144° 30' E..."

4: Krämer--191-192 (1909) 1937 Woleaians
116, 131 Woleai

According to the diary of Don Luis, the following were determined on the voyage; a shoal of 24 fathoms at Lat. 8° 20' N and Long. * 149° E, the wild island of Piguelao, according to Kadu [192] called Bigelle, at 8° 6' and 147° 17'** and the sandbank of Oraitilipu with a depth of 12 fathoms at the same latitude***; besides there was the uninhabited island of Fallao which according to Torres is called Fahueu, (Canotva: Fayo) and which is located at 8° 5' and 146° 45'****; Farruelap*****(Torres: Faroilap; Cantova: Fatoilep) is at 8° 3' and 144° 30' and Guliai (Torres: Ulee; Cantova: Ulea; Kadu: Oli) is at 7° and 144°. For his map, see Kotsebue Endeckunsreise... Vol. III, page 85.

*According to map 97, the Gray Feather Bank with a depth of 9 meters is located at 8° 10' and 148° 43' and the Hitchfield Bank with 20 meters of water at 7° 50' and 149° 40', and there are no other sandbanks in the region.
**Map 97 has Pikelot at 8° 9' and 147° 42'.
***On map 97, a bank by this name is charted at 8° 6' and 147° 15' with a question mark and a depth of 22 meters.
****The so-called West Faiëu; East Faiëu... and in Namoin(see 1010 Krämer, page 163). The meaning of the name is "stone one"; stone, fau and on Lamotrek fai and from that Fais has derived its name with the meaning of "rocky." Map 97, 8° 5' and 146° 52'.
*****Map 97: Faraulip

4: Krämer-- 204-205 (1909) 1937 Woleaians -1 -2
116, 131 Woleai

The Oleai atoll is distinguished from the other groups by its hourglass shape. Oriented eastwest, the island has a length of 5.6 nautical miles and, in the west (Falalis-Votagái), it has a width of 3 nautical miles, whereas in the east (Raur at the southern tip, Voléa at the northern cape) it has a width of 2.1 nautical miles. The narrowest part of that hour-glass shape is about 1 nautical mile wide; from the new Sand-Cay to Tagaulap it would be a distance of 1 1/2 nautical miles.

This neck divides the inland water into two lagoons which are separated from one another in the northern part of the narrow section by single reefs. It is only southward, that a connecting channel, 2 1/2 cable lengths in width, runs from east to west and within the barrier reef has sufficient depth for some larger ships (at least 15 meters). The depth of the water in the east is mostly 7-9 fathoms, and in the south it is approximately twice that. Here we also find the most commonly used entrance, the Raur Channel. The large western lagoon in most places had a depth exceeding 20 fathoms and, in the middle, 27 fathoms; in the south it has another large entrance with a shoal with a depth of 5.3 fathoms, the Falális entrance. Between these two entrances, the Raur and Falális Channel, there is a third smaller one with a depth of 7 fathoms which is located between Sandy Cay and the small island of Motogosóu; it leads into the connecting channel through which one can get directly into the lagoons either in the east or west. All three of the southern entrances thus have sufficient depth (at least 15 meters) and sufficient width (at least 300

meters) but their margins are submerged, since the reef foundation on which Raur is located projects more than 700 meters to the west (up to the Raur Channel) and the reef of Falalis projects about 1500 meters towards the east. That leaves as boundaries in the south two submarine isolated reefs on which the small island of Motogosou is located in the east and the Sandy Cay mentioned in the west, which was newly created in the typhoon of 1907. According to the natives, there exists an old story which claims that there was an island in the same spot in the past and that it was destroyed by a typhoon in a similar manner to that in which Raur was washed away in 1907. The same typhoon deposited the sand formation which is known as the Sandy Cay in the old place. The special plan of map 93 of the Reichsmarineamt of 1903 has the nucleus of the Sandy Cay reef very lightly marked on the southern side west of the Motogosou reef; west of it we find a line of soundings running from SW-NE with the depths [205] 9.1, 9.1, 26.11, 9.6, 11, and 40 as the depth of the lagoon. It was not until the Japanese map was published that the open southern side (as at Onoun) was explained although only hasty surveys were made.

The German map includes a western channel between Falalis and Falulap; but there are shoals with a depth of 4-6 meters at the entrance; they are also charted on the Japanese map. This channel is suitable for canoes only and the same is true of the two entrances in the north, the North Channel between Jalangigereil and Fareiles which leads into the west lagoon (depth of 10 meters and width of 180 meters) and the Tagaulap Channel between this island and Marijong (with a sandbank of 3.6 meters ar a total width of 100 meters) which flows directly into the eastern lagoon.

Nothing more is to be said of the islands of Paliau and Raur in the east but that Paliau was greatly affected by the typhoon of 1907. Nevertheless in the main it was able to maintain its shape. The island of Raur was completely washed off its reef foundation...[217]

3. Máriong

Máriong has a length of about 700 meters extending from SW-NE. The village is located on the southeastern shore in a southwestern direction. The village is divided into three sections....

4. Tagaûlap

has a length of approximately 1500 meters from W-E; in the center the land widens southward and on this projecting area of land the village is located.... [218]

5. Soluap

has not been mapped.

6. Votagai

old outskirts of the village. At the eastern end of the island there is a sandbank. A projection in the south is known as Fausefang. The village is divided into three parts... [219]

7. Falális. Spirit Iletilimar.

Two village sections (photo 14c and 17b) [VMM: see source]....

4: Krämer--208-219 (1909) 1937 Woleaians-2
116, 131 Woleai

8. Raur†

Raur was destroyed by the typhoon. . . A fallap, Lúgalapraûr, is said to have existed.

9. Paliau†

fallap, Gataliva.

5: Kittlitz--148
116, 131, 171

(1827-8) 1858

Woleaians
Lamotrek

...we sighted the so-called Swedish Islands, which consist of three coral groups: Namurrek, Elato and Namolia-ur. Early the next morning several canoes came from the most eastern one, Namurrek; they were built exactly like the boats, which we had already seen.

5: Kittlitz--151
116, 131, 175

(1827-8) 1858

Woleaians
Faraulep

According to the information we secured from Don Luis de Torres and the Caroline Islanders, the Farollap group was located northwest of the Swedish Islands. On the morning of the 28th of March we sighted three islets in this area, and soon some canoes came to greet us; they answered our first question by crying Farollap.

5: Kittlitz--152 (1827-8) 1858 Woleaians
116, 103, 131 Ifalik

Until the third of April we hunted for two coral islands, which were shown on the maps, and which the Captian thought might be the same one which the natives of some other islands called Ifaluk. In reality there were four islands, the largest of which was Ifaluk; it had apparently given its name to the rest, just as Lugunor and some others did.

5: Kittlitz--153-55 (1827-8) 1858 Woleaians-1-2
116, 131, 137, 136 Woleai

Toward noon, we tacked to the anchorage inside the lagoon [MR: on the southern side]; this spot was remarkably like the one at Lugunor. In both places the strip of land, which lay just a short distance from us, was the eastern part of the island group, but here it was composed of three separate islands, which were separated by very narrow canals, while the other was formed by the long island Lugunor, the principal one of the group. The southern one of these islands is Ra-ur, the central one Palliau, and the northern one Ulea or Uleai; it is also the entrance to the north side of the whole group. Uleai, which is the largest island of the group, is shaped like a triangle with flattened sides. Farther north on the edge of the shallows is Marion Island, which is to Uleai what Funoar is to Lugunor, except that the partially submerged reef between it and the main island is not so long as the one between the other two islands. All of these places that I have mentioned are like the Lugunor group in that they are partially covered with very tall trees, in whose shade the houses are [154] scattered, with little lawns around them. At low tide it is very easy to wade through the canals between the islands of this eastern shore, especially the one between Ra-ur and Palliau. We noticed that the large forest trees included more varieties than on Lugunor; there are fine specimens of Callophyllum ...and the Hernandia ovigera.... We saw the sea-swallow (Gygis candida) around the crowns of these trees.... Among the beach birds we saw the Strepsilas collaris...and the Numenius tenuirostris... In the bushes I found the Sylvia Sryinx and the black variety

of Lamprothornis....

On this island group there are neither hens nor doves, and we also missed the Pteropus. On the other hand I once saw [155]... the cuckoo...

The vegetation of these islands is naturally very similar to that of the Mortloks Islands... The Tacca pinnatifida, whose root should produce a fine arrowroot...is much more common than on Lugunor....

5: Kittlitz--156 (1827-8) 1858 Woleaians
116, 131 Woleai

The Uleai Island group consists of two horse-shoe chains, which belong to the same shallows and are only separated by a narrow canal on the northern side. Our anchorage lay in the lagoon of the eastern part; I have already mentioned the principal islands here; those of the western group are Ulemarai and Seliap; a row of very small but inhabited islets adjoins the latter on both sides.

6: Senfft--53
116, 131

(no date) 1905

Woleaians
Woleai

Lamutrik or Swede Island is also an atoll. Its shape is that of an isosceles triangle. At the corners of the triangle Lamutrik, Puch (not Pugun), and Fleit (not Faleite) Islands are situated. The Lamutrik group also includes the Elato Atoll about five nautical miles to the west, which consists of the islands of Elato, Oletel, Kari (not Karigun), Tauas, and Falipi, as well as the atoll one nautical mile south of Elato, with the two islands of Lamrior and Ulor. The names Namaliauon and Tauas given on chart 772 of theBritish admiralty are not familiar to the natives. Puch and Fleit are the only uninhabited islands. According to the chart of the British admiralty, the geographical position of Elato is 7° 29' 30" North and 146° 19' 0" East. The chart based on a sketch by the explorer Lutke is not correct. The errors may be seen by a comparison with a sketch I made together with the pilot Davenport during my stay on Lamutrik in September 1903. According to this there are several openings in the reef. There are two passages into the lagoon which lead to a safe harbor by Lamutrik Island.

6: Senfft--53
116, 131

(no date) 1905

Woleaians
Woleai

Oleai, which is sometimes--incorrectly--called Wolea or Ulie, is a typical atoll in the shape of a figure eight. The reef has an opening in the southeast. There are 21 islands on the reef, of which the following eight are inhabited: Raur, Paliau, Flalap (mistakenly called Oleai), Mariom, Tagaulap, Seliap, Usagel (which, on chart 772 published by the English admiralty, is called Olemari through a confusion with a village located on this island), and Falalis. The northern tip of Raur is situated at 7° 21' 39" South and 143° 57' 30" East.

7: Senfft--193 (No date) 1904 Woleaians
116, 131, 137 Faraulep

I met several canoes which had been on their way out but returned to show me the passage into the reef of Faraulip Island. The three islands of this atoll are low islands. The coralline soil is overgrown with healthy specimens of coconut palms, breadfruit trees, bananas, Cystoeperma edule, some tobacco, and some pandanus and betel trees.

7: Senfft--194
116, 131, 161

(No date) 1904

Weleaians
Aurupik

Aurepik is an atoll comprising four islands, Aurepik, Uau, Pikefaj, and Elangkitegit, of which the first two are inhabited. The vegetation is the same as that on the other atolls. Coconuts trees are predominant here also.

7: Senfft--194
116, 131

(No date) 1904

Woleaians
Ifalik

A small passage leads into the [MR: Ifalik] lagoon, which was formerly used by a Spanish man-of-war.... There are three very attractive islands on the reef.

7: Senfft --195
116, 131

(No date) 1904

Woleaians
Aurupik

There is no passage into the lagoon, but the boats may pass over the reef at high tide. The reef is covered with trepang, but it is of a poor quality.

9: Senfft--13-14 (1903) 1904 Woleaians
116, 103, 131 Woleai

Oleai is also an atoll; [14] it consists of 23 islands of which Raur, Palián, Oleai, Máriom, Tagánlap, Séliap, Olemari (Ot'thogan), and Falális are inhabited.

11: Born--175-176 (1903) 1904 Woleaians
116, 131 Woleai

The Oleai Islands belong to the West Carolinian and Palauan district politically. They are situated about 380 nautical miles to the east of Jap, and form part of the island group which extends from Palau to the Marshall Islands over an area of more than 40 degrees of longitude. They comprise 21 islands of varying size. Only eight of them, the largest in size, are inhabited, although all of them have abundant growths of coconut trees and tall breadfruit trees. Raur, Paliau, Oleai, Marijong, Tagaulap, Saliap, Utagal, and Falalis are the islands which are inhabited.

The islands form two semi-circles which meet at Tagaulap Island, in such a way that they form the arabic numeral 3. The opening of the 3 forms the passage to the inner lagoon.

Through this large opening in the reef, the lagoon is exposed to the southwest monsoon, so that this wind causes a rough sea within the harbor. There are also many reef banks scattered throughout the harbor. One of the most dangerous of these is situated to the northeast of Motogosu (Motagu) Island. During stormy weather, which is frequent during the time of the northeast monsoon, the sea here is very rough; it swells and there are breakers and strong currents from all sides.

There are two narrow passages which are navigable for canoes and small craft, one between Fareiles and Jalangigereil, the other between Tagaulap and Marijong; the latter has more depth. Near this, towards Tagaulap, there are breakers [176] even during calm weather. During the northeast monsoon the surf is strongest at the apex of each of the two semi-circles.

11: Born--177 (1903) 1904 Woleaians
131 Woleai

Aurepik is a distance of 80 nautical miles from Oleai, Ifaluk is 40 and Faraulip 100 nautical miles distant.

12: Lutke--107-108
116, 131, 175, 161

(1828) 1835

Woleaians
West Fayu

Following our way west on the next day (February 22) we saw Pyghella and Faïeou islands which Don Louis Torrès had also seen, and which he called Pigouelao [AN: Pikelot] and Faliao [AN: Fayu]. The former [108] had already been seen by Captain Duperrey. Both of them are very small, not being more than a hundred and fifty meters long; they are almost at water level, surrounded by a reef forming a cove on Faliao, and both of them are uninhabited.

12: Lutke--127
116, 131, 175

(1828) 1835

Woleaians
Lamotrek
Elato

I steered first for the islands which Wilson called Islands of the Swede (Swede's Islands), because a sailor on his boat, who was born in Sweden, remained there. We did not meet anything worthy of notice until the 25th, when we passed seven miles from the shore of Taïeou Island (western) [AN: West Fayu] which we had already surveyed. On the evening of that same day we saw the Swede's Islands at the west. At dawn on the 26th we had drawn near to them; then we were joined by several canoes and the natives informed us that the easternmost of the three separate groups which form these islands is called Namourrek (or Namouttek) [AN: Lamotrek]; the westernmost is Elato and the most southern, Namoliaour.

12: Lutke--128-129 (1828) 1835 Woleaians
116, 131, 175 Elato

After observing the latitude between the Elato and Namourrek groups, which are situated almost on the same parallel, we went to the western side of the former. This side consists of an open reef with several islets one of which is called Falipi. On Cantova's map, in almost this very spot you see Banc de Falipi. Could what was formerly a shoal have become an island in a hundred years time? There is a harbor in the Elato group: the boats sent from the Marianas to get the trepang always stop there. However, we were not able fo find [129] the entrance to the lagoon which according to what we had been told is on the eastern side. This is contrary to the law generally observed in the coral atolls, where the openings of the reef are to be found on the side under the wind.

12: Lutke--130
116, 131, 175

(1828) 1835

Wolcaians
Faraulep

We steered north, to go in quest of the Farroĭlap group (or Fattŏilap) which was seen by Mr. Torrès. By following his indications and the statements of the Carolinians, we reached this small group on the morning of the twenty-eighth of March. It is only four miles in circumference, and is composed of three islets with a lagoon in the center. After sailing around them we hove to on the side under the wind.

12: Lutke--133 (1828) 1835 Woleaians
116, 131, 175 Ifalik

Having run south to latitude 7° 20′, we now steered west. The two Wilson islands are situated in this latitude, and we now thought that they would prove to be the Ifalouk group; this surmise was correct. We surveyed it on the third of April. It consists not of two, but of four islands: Ifalouk, Moaï, Ella and Faraik; they lie, as usual, on a reef which forms a lagoon about five miles in circumference.

12: Lutke--136-137 (1828) 1835 Woleaians
116, 131 Woleai

Mr. Zavalichine came back when he had found a good anchorage, and then we entered the lagoon. After tacking a few times we threw anchor about noon [137] across from the northern point of Raour Island.

12: Lutke--142-143 (1828) 1835 Woleaians
116, 131, 175 Woleai

The Ouleai group is fifteen miles in circumference; on the old maps it appeared twenty or thirty times larger. It is composed of twenty-two islands, whose names are given with a fair degree of exactitude both by Mr. Chamisso, and on Captain Freycinet's map. According to our observations the [143] southern tip of Raour island, the most eastern one of the group, lies latitude 7°20' 7" north, and at longitude 216°3' west.

12: Lutke--143-144 (1828) 1835 Woleaians
116, 131 Woleai 12

The wearisome uniformity of the coral islands has this advantage at least, it dispenses the traveler from the obligation of describing in detail the form of each group. After seeing one, he has seen them all. We have already noted their appearance on the sea side. From the lagoon they all look like a round sandy streak, covered with thick woods, and broken by certain gaps which are framed by the breakers; these do not break the horizon line, however.

But the Ouleaï group differs from the others in this connection. Its form is highly irregular; there are two angles which project toward the north, and a deep recess lies between them. According to the hypothesis of the coral island formation, you can not explain this shape except by assuming that two entirely independent groups were formed here at this place, and simultaneously. The six-meter canal between the Angaligaraïl and the Faraïle islands seems to mark their separation. The reef which extends SE from there joins on the other side of Motogozeu Island the reef which starts from Raour Island, and this completes the eastern group; while a [144] depth of five fathoms, and the reef which extends E and NE from Felalis [AN: Falalis] Island indicate the direction in which the reef will have to go from Felalis, if it is ever to reach Feraïlles and to separate the western group.

The island Ouleaï stands out not only from the ones in this group, but from most of the ones which we had seen up until now. Its southern side does not have the shallow, which makes the other islands so inaccessible; instead the ground slopes down rather

rapidly to a bottom, which is level and sandy; through several fathoms of clear transparent water you can see each grain of sand on the floor. The interior of the island is charming; it is a grove, intersected with paths leading in every direction, and dotted with clearings where there are houses. The coral islands generally have the shape of a horse-shoe, and the sea always looks ready to occupy it. Scarcely have you left one beach when you reach another. Ouleaf on the contrary, is fairly large and there is a kind of park with some beautiful breadfruit trees.

12: Lutke--148-149 (1828) 1835* Woleaians
116, 131, 175 Aurupik

After surveying the southern side of the Ouleaï group, we steered south to hunt for the Eourypyg group about whose location I had obtained some information at Ouleaï. Acting on these advices on the twelfth we found this little group which is made up of only two islands. While sailing along its northern side we saw some men on the beach but to our great regret they did not launch their canoes which were on the bank. We did not see any in the lagoon either; so we never learned [149] the names of the islands which form this group.

12: Lutke--318
116, 131, 175

(1828) 1835

Woleaians
Woleai

On the old maps the Ouleaf group occupied a space of two or three degrees in longitude. Captain Freycinet reduced it to seventy miles; while in reality it is only six Italian miles long in this direction.

14: Born et al--572 (1907) 1907 Woleaians
116, 131 Woleai

On March 19 we [MR: Capt. Martens] sighted Oleai...and anchored...by the island of Raur....According to our observations the lagoon is placed 12 to 14 minutes too far to the east on the chart.

14: Born et al--572 (1907) 1907 Woleaians
116, 131 Ifalik

On March 26 we [MR: Capt. Martens] arrived at Ifaluk in the morning...According to astronomical observations Ifaluk is situated correctly on the chart as to latitude, but the longitude is 14 minutes too far to the east.

15: U.S. Hydrographic Office--540-541 1938 Woleaians
116, 131 West Fayu

"West Fayu (Faiu) Island (8°05'N., 146°44'E., H. O. Chart 5426), 54 miles west of Pikelot Island is a small, thickly wooded islet [541] near the middle of a reef which forms a lagoon westward of it. This lagoon has depths of 16 to 22 fathoms, except for a 2 1/4 fathom patch in the middle. The entrance to the lagoon, on the southeastern side, is 1/2 mile wide, but the channel is considerably limited due to shoal depths of 1 to 2 1/4 fathoms. Boats can easily reach the landing place at the southern end of the island."

15: U.S. Hydrographic Office--541 1938 Woleaians
116, 131 Lamotrek

"Lamotrek Islands (southeast end, 7°27'N., 146°24'E., H. O. Chart 5426), 39 miles westward of Satawal Island, consist of three islets lying on a triangular atoll enclosing a lagoon. Coconut palms and breadfruit trees grow on the islets. . . .

'Entrances. -- The northern side of the reef is continuous, but the other sides are broken, leaving several entrances to the lagoon. The entrance on the northeastern side and south of Pugue is wide and clear of detached dangers, but during strong northeasterly winds high seas set through it into the lagoon. Though the entrance at the middle of the southern side is difficult to find, it is 400 yards wide and a good channel when the northeasterly winds are strong. Westward of the latter is another entrance about 320 yards wide. All the other entrances are narrow.

Anchorage. -- Off the western side of Lamotrek Island there is anchorage with shelter from northeast winds, but when westerly winds are blowing hard the sea is rather high. The sandy beach on the western side of Lamotrek Island can easily be reached by small boats."

15: U.S. Hydrographic Office--541-542 1938 Woleaians
116, 131, 221 Elato

"Elato Islands, 5 miles westward of Lamotrek Islands, consist of two atolls, the southern enclosing one lagoon and the northern two lagoons. Elato Island is the largest of four islets on the northern atoll, and Toas Island is the larger of the two on the [542] southern atoll. Elato Island is flat, sandy, and covered with trees; natives from neighboring islands come here to obtain material for canoes. Trees also grew on the islet of the southern atoll. . . .

Anchorage has been found in a depth of 11 fathoms in the northern lagoon and about 1/2 mile south of the western extremity of Elato Island. The sandy beach on the southwest side of this island is easily reached by small boats.

A narrow entrance, available only to small boats, leads into the lagoon of the southern atoll."

15: U.S. Hydrographic Office--542 1938 Woleaians
116, 131 Olimarao

"Olimaroa Islands (northeast end, 7°42'N., 145°53'E., H. O. Chart 5426), about 21 miles west-northwest of Elato Island, consist of two flat islets on an atoll reef; they are covered with coconut palms and other trees. The reef on the northwest side is marked by breakers at all times. On the southern side are two passages, of which the eastern is 1,000 yards wide and the western 600 yards wide. The depths in the lagoon appear to be regular, with no dangers.

. . . . The reef surrounding Olimarao Island makes landing difficult.

In 1934 a shoal, with a depth of 14 fathoms over it and marked by discolored water, was found 3 1/2 miles north-northeast of Olimarao Island."

15: U.S. Hydrographic Office--542 1938 Woleaians
116, 131, 161, 223 Gaferut

"Gaferut (Grimes) Island (9°14'N., 145°23'E., H. O. Chart 5426), 97 miles north-northwest of Olimarao Islands, is low, thickly covered with trees, and encircled by a reef. There are no coconut palms and no inhabitants, but natives from Faraulep Islands visit it to catch birds, which are numerous on it."

15: U.S. Hydrographic Office--542-543 1938 Woleaians
116, 131 Faraulep

"Faraulep Islands, 62 miles southwest of Gaferut Island, consist of three low wooded islets on an atoll. On the southern side of the atoll are three narrow channels leading into the lagoon; they are [543] not suitable for large vessels. Small boats can reach the lagoon sides of the islets at half tide."

15: U.S. Hydrographic Office--543 1938 Woleaians
116, 131, 504 Ifalik

"Ifalik Islands (7°15'N., 144°27'E., H. O. Chart 5426), 9 miles southwest of Gamen Reef and 81 miles southward of Faraulep Islands, lie on a small atoll reef. The three largest are wooded and have coconut palms on them. Between the two southernmost of the three largest islands is a shoal passage available to small boats; it is also very narrow due to a reef immediately inside. There are two jetties on the southern part of the western shore of Ifalik Island."

15: U.S. Hydrographic Office--543-544 1938 Woleaians-1-1
116, 131, 504 Woleai

"Woleai (Anangai) Islands (east end, 7°21'N., 143°55'E., H. O. Chart 5426), 32 miles westward of Ifalik Islands, consist of several islands covered with coconut palms and other trees. The reef on which they lie forms two lagoons, open to the southward. A number of reefs and shoals are scattered throughout the lagoons. Motegosu, on the western side of the entrance to East Lagoon, is composed entirely of sand and pebbles, and cannot be made out from a distance. . . .Raur, the southeastern island, was formerly the trade center, but was devastated by a storm that took place over 15 years ago. . . [544]. . . .

Entrances. -- Raur Channel, at the southern end of East Lagoon, is about 1/4 mile wide and has depths of 6 to 12 fathoms in it.

West Channel, on the southwestern side of West Lagoon, has a 3 1/2 fathom patch in midchannel.

North Channel, on the northeastern side of West Lagoon, is about 200 yards wide and has depths of 3 to 7 fathoms.

A shoal and narrow channel, suitable only for small craft, leads into the western part of East Lagoon from northward of the atoll. The tidal currents in it are strong.

Tidal currents. -- In the southern entrance to East Lagoon the flood current sets eastward at a maximum drift of 0.5 knot, and the ebb west-northwestward at 0.3 knot. The currents turn at about high and low tide.

Anchorage. -- East Lagoon is too limited to afford anchorage for many vessels;

West Lagoon, however, is extensive and deep, but its shoal entrance is a hindrance to large vessels. Since both lagoons are open to the southward, a swell sets in during the season of south-west winds. At such times small vessels will find suitable anchorage in the northwestern part of East Lagoon. Northward of Tagaulap, about 1 mile southwest of Woleai, is a comparatively shoal area which affords good anchorage during southwest winds.

Of two wooden piers in front of the South Sea Trading Co.'s office, the southern is safe for small boats to come alongside. The northern pier and another at southern end of the island are not secure. Row boats can land inside the coral reef on the south-western part of Utagal, where there is a sandy beach."

15: U.S. Hydrographic Office--544 1938 Woleaians
116, 131, 504 Aurupik

"Eauripik (Kama) Islands (east end 6°41'N., 143°05'E., H. O. Chart 5426), about 58 miles southwest of Woleai Islands, consist of six small islets, all except the westernmost of which have coconut palms on them. They lie on an atoll reef which is 5 1/2 miles long east and west, and which is steep-to with over 100 fathoms at a distance of 400 yards off. The reef on the southern side is generally low. The sea breaks on the northern side during southwesterly winds of force 1 to 2, but not on the southern side. At high tide small boats can land at a jetty on the southern side of Eauripik, the easternmost island."

16: Gt. Britain, H. O. --501 (no date) 1933 Woleaians
116, 131 Woleai

"Woleai or Anangai islands lie about 60 miles north-eastward of the Eauripik islands. The atoll, the southern side of which is mostly submerged, is divided into two lagoons by a ridge of reefs extending south-eastward from Tagaulap island (Lat. 7° 22' N., Long. 143° 53' E.). West lagoon is wide and generally deep, but with scattered shoals; as the entrance to it is shallow, large vessels cannot enter it. Both lagoons are open to the south, and during the south-west monsoon a swell sets in. A sand cay lies on the reef, on the southern side of the atoll, nearly 1 1/2 miles southward of Tagaulap island.

All the islands are covered with coconut palms and other trees. Motogozu islet, on the south-western side of East lagoon and nearly one mile westward of the southern point of Raur island, the south-easternmost island of the group, is low and formed of sand and gravel.

There are two white houses on the south-western side of Woleai island, the north-easternmost island of the group, but they are not conspicuous. There are two wooden piers in the middle of the southern side of Mariaon island, situated about 4 cables westward of Woleai island; the northern pier is weak. There is also a pier at the southern extremity of the island."

16: Gt. Britain, H.O. --501-502 (no date) 1933
116, 131, 504

Woleaians-I 2
Woleai

"Entrance Channels. --Raur channel, leading into the southern end of East lagoon, is about 2 1/4 cables wide between the reef extending south-westward from the southern end of Raur island and the reef surrounding Motogozu islet, and has depths of from 10 to 25 fathoms (18^m3 to 45^m7) in the fairway, but the depths may be less in the approach.

[502]West channel, on the south-western side of West lagoon, close south-eastward of Falulap islet, has a 3 1/2-fathom (6^m4) patch in the fairway.

North channel, on the north-eastern side of West lagoon, between Farailes island and Jalangigereil is land, south-eastward of it, is about a cable wide between the reefs on either side, and has depths of from about 3 to 7 fathoms (5^m5 to 12^m8).

There is a passage between the reefs extending from the eastern end of Tagaulap and the southern end of Mariaon island, but it is narrow, and as the tidal streams in it are strong it is unsuitable except for small craft.

Shoals. --There are numerous shoals in West lagoon, which can best be seen on the chart. In east lagoon there is a shoal ridge, with depths of from one to 6 fathoms (1^m8 to 11^m0), situated about 8 cables south-eastward of Mariaon island. There is a 2-fathom (3^m7) patch about 2 3/4 cables south-westward of the south-western extremity of the ridge, and another 2-fathom (3^m7) patch situated 3 1/4 cables northward of the southern extremity of Raur island.

Anchorages. --Large vessels may obtain anchorage in East lagoon, in depths of from 15 to 20 fathoms (27^m4 to 36^m6), fine sand, with good shelter about 4 1/2 cables

westward of the northern part of Raur island.

Small vessels may obtain anchorage during the south-west monsoon off the south-eastern side of Mariaon island, and also off the northern side of Tagaulap island (Lat. 7° 22' N., Long. 143° 53' E.)."

16: Gt. Britain, H. O. --502-503 (no date) 1933 Woleaians
116, 131, 175 Ifalik

"Ulloa reef, over which there is a depth of 9 3/4 fathoms (17^m8), was discovered in 1894 by the Spanish man-of-war Don Antonio de Ulloa; it lies about 20 miles south-westward of the Ifalik islands, and about a mile westward of the reef is another, with a depth of about 12 fathoms (21^m9) over it.

Gamen reef, over the south-western end of which there is a depth of about 2 3/4 fathoms (5^m0), was discovered in 1885, by the Swedish barque Gamen; it lies from 9 to 21 miles north-eastward of Ifalik islands. The reef, is from 2 to 4 miles wide, and has depths of from 2 3/4 to 13 1/2 fathoms (5^m0 to 24^m1) over it, with over 100 fathoms (182^m9) close-to.

Ianthe shoal, over which there is a depth of 3 3/4 fathoms (6^m9), was discovered in 1845 by the American ship Ianthe; it lies about 100 miles south-eastward of Ifalik islands, and is about 1 3/4 miles [503] long east and west, and three-quarters of a mile wide. About 5 1/2 miles westward of Ianthe shoal is a shoal with a depth of 3 fathoms (5^m5) over it, which is much discolored and plainly visible. Between these two shoals there are two 7-fathom (12^m8) patches."

16: Gt. Britain, H.O. --503 (no date) 1933 Woleaians
116, 131 Olimarao

"Olimarao island lies on the northern side of the reef forming an atoll, about 95 miles south-south-eastward of Gaferut island; it is covered with coconut palms and other trees; all round the island the bottom shelves and it is unsuitable for landing.

On Falifi, at the western extremity of the atoll, trees grow luxuriantly, but there are no coconut palms.

The atoll has no permanent inhabitants, but is occasionally visited by natives from Elato.

There are shallow depths on the north-western side of the atoll, where there are always breakers on the reef, and there is no passage into the lagoon. On the southern side there are two shoal passages, the eastern of which is half a mile wide and the western about 3 cables. It is reported that the depths in the lagoon are even, and there appear to be no dangers."

16: Gt. Britain, H. O. --503 (no date) 1933 Woleaians
116, 131, 175 Faraulep

"Faraulep islands, about 80 miles northward of Ifalik islands, consist of three islets on a circular reef forming an atoll, the largest of which is Faraulep islet, 78 feet (23^m8) high; they lie on the northern and eastern sides of the reef of an atoll and are covered with coconut palms and other trees.

There are three passages into the lagoon on the southern side of the atoll, all narrow and unsuitable for large vessels to pass through but boats may enter the lagoon and obtain a landing on any of the islets.

....There are many turtles in the vicinity of this group.

Earl Dalhousie bank, with depths of from 14 to 25 fathoms (25^m6 to 45^m7) over it, lies about 56 miles north-north-eastward of Ifalik islands. Tarang bank, over which there are depths of from 14 to 25 fathoms (25^m6 to 45^m7), was discovered by the schooner Tarang in 1910; it lies with its shoalest part, which is near the middle of the bank, about 83 miles north-north-eastward of Ifalik islands. Between Earl Dalhousie bank and Tarang bank is Akashi shō, a bank with a depth of 14 fathoms (25^m6) over it."

16: Gt. Britain, H.O.--503 (no date) 1933 Woleaians
116, 131, 136, 161 Gaferut

"Gaferut island, about 60 miles north-eastward of Faraulep islet (Lat. 8° 36' N., Long. 144° 33' E.), is low, wooded, and surrounded by a fringing reef, which extends about 3 cables north-westward from its northern extremity, and about 2 1/2 cables south-south-westward from its southern extremity. The island, which is 65 feet (19m8) high to the tops of the trees, is uninhabited. Numerous booby gannets, which are similar to seagulls, inhabit the island."

16: Gt. Britain, H.O.--504 (no date) 1933 Woleaians
116, 131 Elato

"Elato islands, about 20 miles south-eastward of Olimarao island, consist of two atolls. On the northern are four islets, the largest of which is Elato, at the northern end; it is 101 feet (30^m8) high to the tops of the trees, and sandy.

On the eastern side of the atoll, about a mile south-westward of Elato islet there is an entrance into the lagoon about half a cable wide, with depths of from 5 to 6 fathoms (9^m1 to 11^m0).

In February, 1862, H.M.S. Sphinx entered the lagoon and anchored in a depth of 11 fathoms (20^m1) about half a mile southward of the western point of Elato islet.

Landing can be made on a sandy beach on the south-western side of Elato islet...

The southern atoll, on the south-eastern side of which are Toas and Ulor islets, is separated from the northern atoll by a passage about 1 1/4 miles wide. Both islets are wooded.

There is a narrow passage through the reef about 2 cables northward of Toas islet, which, except for small craft, is difficult to navigate."

16: Gt. Britain, H.O.--504 (no date) 1933 Woleaians
116, 131 Lamotrek

"Orairuguron bank, over which there is a depth of 21 fathoms (38^{m}4), lies about 10 miles southward of Toas islet."

16: Gt. Britain, H.O.--505 (no date) 1933 Woleaians
116, 131 West Fayu

"Oraitilipu bank, over which there is a depth of 8 3/4 fathoms ($16^{m}0$) at its south-eastern extremity, lies about 32 miles eastward of West Fayu island. It extends for about 4 1/2 miles north-west and south-east. The depth immediately round the bank is over 100 fathoms ($182^{m}9$)."

16: Gt. Britain, H.O.--505 (no date) 1933 Woleaians
116, 131 West Fayu

"West Fayu island is densely wooded, and lies about 46 miles north-north-westward of Satawal islands. Reefs extend eastward, westward, and southward from it; that extending westward curves round and running eastward forms a lagoon with the reef which extends southward. There is a passage half a mile wide between the extremities of these two reefs, but the navigable channel is much reduced by a shoal, with depths of from one to 2 1/4 fathoms (1^m8 to 4^m1) over it.

There are general depths of from 16 to 21 fathoms (29^m3 to 38^m4) in the lagoon, but there is a reef, with a depth of 2 fathoms (3^m7) over it, nearly in the middle of it.

Landing can be made near the southern extremity of the island."

17: Meinicke--357
116, 131, 161

(Prior to 1875) 1876

Woleaians
West Fayu

Westfayeu, 803' N., 146° 50' E., is a small flat uninhabited island covered with bushes which with its large reef surrounding it is over a mile long. Five miles to the east of it lies the dangerous sandbank Oraitilipu.

17: Meinicke--358 (Prior to 1875) 1876 Woleaians
116, 131, 175 Lamotrek

Lamotrek is the common name for a group of 3 small lagoon islands West of Satawal. The easterly one, Lamotrek, is 1 miles long in a northwesterly direction; on the reef which surrounds the approachable lagoon are 3 larger and 7 small islands. The southern one, Lamoliork (Lamoliaur) is the smallest; the westerly one, Elato (7°30' N., 146°19' E.) is the same size as Lamotrek and has numerous reefs on the east sode of the reef; the west side is almost completely bare; on both sides a channel leads to a good harbor in the lagoon. SW from this island lies the dangerous sandbank Janthe (5°32' N., 145°40' E.); it was given this name after the ship which discovered it in 1845 and is perhaps the same sandbank that the people of the Carolines call Falipi.

17: Meinicke--358 (Prior to 1875) 1876 Woleaians
116, 131, 161 Ifalik

Ifalik, 7°15' N., 144°31' E., is a small flat wooded lagoon island 5 miles east of Ulie and more than a mile in circumference. There are 4 little islands on the reef, the two larger and the only ones inhabited being on the east side and the two smaller ones between which a narrow canoe channel leads into the lagoon on the south side.

17: Meinicke--358
116, 131, 161

(Prior to 1875) 1876

Woleaians
Olimarao

Olimarao (Cheyne's Five islands, 7°45' N., 145°47' E.) is 2¼ miles WNW of Olato and is a small lagoon island scarcely ¼ a mile long with two small inhabited islands on its reef.

17: Meinicke--358 (Prior to 1875) 1876 Woleaians
116, 131, 161 Faraulep

Faraulep, 8° 35' N., 144° 36' E., lies NW of Olimarao and is a small uninhabited lagoon island of 1 mile in circumference on whose reef there are 3 small islands of which the most southerly is called Eate.

17: Meinicke--358-359 (Prior to 1875) 1876 Woleaians
116, 131 Woleai

Ulea is barely a mile and a half long from east to west. The lagoon is an elongated oval but it is divided into 2 portions by a reef going out south from the island Tagoilap on whose south end is a small island Motogozen; of these two portions the east lagoon makes a fine [359] protected harbor into which wide and safe channel goes from the east of Motogozen and another narrower one north of this island; the west part of the lagoon is far larger but on account of the numerous coral banks half of it is scarcely usable as a harbor; 3 passages which all ships can go through make it approachable from the sea; the widest is on the S. side W. of Motogozen; the second on the W. side north of Felalis, the 3rd on the north side by the little island Angaliagarail. There are 22 small well wooded islands on the reef of which the most important are Raur (7°21' N., 143°57' E.) Paliau and Ulie, the biggest of all, on the east of the small lagoon; Tagoilap (Thagoilip), Seliap, Ulimirai on the north and Felalis on the south side of the larger lagoon.

17: Meinicke--359
116, 131, 161

(Prior to 1875) 1876

Woleaians
Aurupik

Euripik, 6°40' N., 143°11' E., NW of Ulie is a small lagoon island scarcely ½ a mile long on the N side of whose reef there are 2 little islands of which only the easterly one is inhabited.

23: Pereiro--13-14 (N[illegible] date) 1895 Woleaians
116, 131, 437 Woleai

According to Coello, Don Luis Torres made a map of the islands that constitute this group in 1804, which number 23 and are located on a barrier reef 10 kilometers long and 5 wide. The location at the extreme north of the island of Raur, which is the most south west, if 150° 9' 54" long. N. This island is the point at which the boats trading in copra stop. The reef on which these [14] islands are situated has a 15 mile circumference and is open at the south.

28: Spiro--1 (1947-48) 1949 Woleaians
116, 131 Ifalik

"The Ifaluk atoll is part of the larger culture area known as Micronesia. Micronesia lies north of Melanesia, occupying the region between, approximately, 20'N. and 5'S. latitude, and 130' and 180'E. longitude. It includes five major island groups: the Palaus, Carolines, Marianas, Gilberts, and Marshalls.

The Caroline Islands, of which Ifaluk is a part, lie south of Guam, west of the Marshalls, north of New Guinea, and east of the Phillipines. They form a broad belt extending from 131'E. longitude to 163'E. longitude, and from 1' to 10'N. latitude."

28: Spiro--1 [3] (1947-48) 1949 Woleaians
116, 131 Ifalik

"Ifaluk, a low coral atoll, is located at 7'15" N., 144'27" E. The atoll is two miles in length, and 1.6 miles in breadth. It has three fairly large islands: Felarik, in the north-east, Falalap in the south-east, and Ella on the south side of the atoll. There is also a small islet in the south-west. The oval lagoon is about 5 miles in circumference, and is nearly one square mile in area. It is entered by a shallow passage between ella and Falalap. (1)"

"1. The native canoes have no difficulty at all, of course, in making the passage. But only the smallest of navy ships can do so. The LSM that brought us to Ifaluk got in without too much difficulty, but it required three attempts to get out. As a result no attempt was made by the succeeding ships to enter the lagoon."

33: Hasebe--142 (1927) 1928 Woleaians
116, 103, 131 Woleai

"Oleai, also called Voleai, Uleai, Woleai, Ulie, Ouleyai, Ulea, Guliai, Olie, and Valayay, is 245 nautical miles southeast of Fais, and consists of Flalap (Volea, Ulea, Ulee, Ulier), Votagai (Utagai, Otagu), Faralis (Farailes, Futalis, Faralies, Farilies), Solulap (Saliap, Seliep) and Tagaulap (Thageilup, Tafaulep, Tacaylap, Tacaulap)."

33: Hasebe--142-143
116, 131, 161, 304

(1927) 1928

Woleaians
Aurupik

"Aurupik, also called Aurepig, Aurupeg, Aurupig, Aurepik, Jaurepik, Eauripik, Eurupuc, Eourypyg, Eurupugk, [143] Vaupe, Yaropie, and Kama, is about 65 nautical miles southwest of Oleai, and its population is 102. I examined two men and both of them had tattooing on their wrists."

33: Hasebe--143 (1927) 1928 Woleaians
116, 103, 131, 161, 304 Ifalik

"Ifalik, also called Ifaluk, Ifalouk, Iviligk, Ibiliek, Ifelug, Ifeluc, Faloc, and Wilson I., is 40 nautical miles east of Oleai, and its population is 296. I examined three men and two of them had tattooing on their wrists."

33: Hasebe--143 (1927) 1928 Woleaians
116, 131, 161, 304, 103 Elato

"Elato, also called Helato, and Ylatu, is 100 nautical miles east of Ifalik, and its population is 92. I examined two men and one of them had tattooing on his wrist. I asked the other one what he called his tattooing. He replied 'matsuku.'"

33: Hasebe--143
116, 103, 131, 161, 304

(1927) 1928

Woleaians
Lamotrek

"Lamotrek, called also Lamutrik, Namourek, Lamurrek, Lamureck, Lamurec, Mugnac, Lamurrec, Lamorsu, and Amorsot, is about 15 nautical miles east of Elato, and its population is 215. I examined two men, but both of them had no tattooing on their wrists."

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

FOREWORD

IFALUK is a small dot on the map: a half a square mile of land can hardly show much detail on any scale used for Pacific distances. Further, it is spelled "Ifalik" on most maps, through some accident in the history of official spelling for place names. The people who live there call their island in a way that might be rendered "Eefahlook" in a sort of English phonetic spelling. We figure that the people who live there ought to have the final say about the name of their island: hence our divergence from the map makers.

Ifaluk is one of the Caroline Islands, which form part of Micronesia. It is some 700 miles north of New Guinea, some 400 miles south of Guam, and about 1200 miles east of the Philippines. It is a part of the Trust Territory of the Pacific Islands, administered by the government of the United States.

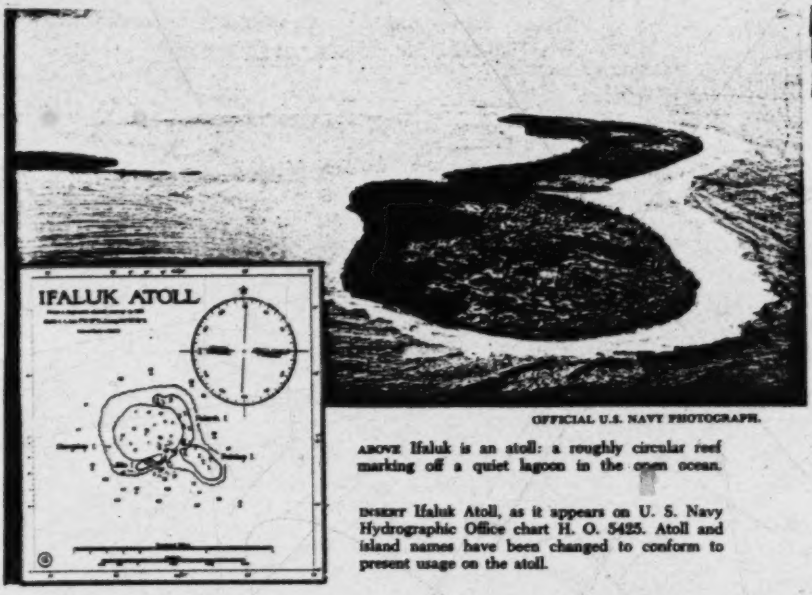
Ifaluk is an atoll: a roughly circular reef, built by corals and other lime-secreting organisms, marking off a quiet lagoon in the open ocean, the reef in places piled up to form islets emerging a few feet above the level of the sea. Mr. E. H. Bryan, Jr., of the Bishop Museum, in Honolulu, has compiled a list of the islands of the world that could be classed as "atolls." He finds 409: 136 in Polynesia, 92 in Micronesia, 66 in Melanesia, 15 in Indonesia, 5 northwest of Australia, 68 in the rest of the Indian Ocean, 26 in the Caribbean Sea, and only one in the Atlantic. Atoll formation, then, is primarily a phenomenon of the tropical Pacific: and the word "atoll" carries with it the connotations of warm sun, of white beaches backed by graceful palms, of friendly dark-skinned people, and of an idyllic way of life.

Ifaluk, for us, lived up to these connotations, and we found our life there a continuously rewarding experience: an experience which, in writing this book, we are trying to share.

We tested several ways of meeting the problem of joint authorship. We tried being "we" which had a nice regal sound and worked well enough when we agreed. But we have a great talent for disagreeing.

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

131
133
100



OFFICIAL U.S. NAVY PHOTOGRAPH.

ABOVE Ifaluk is an atoll: a roughly circular reef marking off a quiet lagoon in the open ocean.

INSERT Ifaluk Atoll, as it appears on U. S. Navy Hydrographic Office chart H. O. 5425. Atoll and island names have been changed to conform to present usage on the atoll.

BELOW The chiefs turned the Fan Nap, the Men's House, over to us for our residence.

345
137
114

[P. 32 (A)]

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

tural changes brought by the West—changes in clothing, in housing, in diet, in customs—have tended to increase the disease problem rather than to alleviate it. But that is a pet peeve of mine.

The population history of Ifaluk itself is not clear. Counts by anthropologists during the period of German control showed populations of 281 in 1903 and 208 in 1909, with an estimate of 300 for 1914. The drop between the first two counts may be a result of the typhoon of 1907—not only direct mortality, but also emigration to other islands as a consequence of food shortage.

The older Ifalukians thought that more people had lived on the island formerly; and from their stories I got to thinking that the population might at some time have reached as much as 500. This was based on accounts of times when even coconuts were carefully shared and nothing was wasted. Abandoned household sites in the village areas might be evidence of some population decline and there were stories of an epidemic, soon after the Japanese appeared, when as many as a dozen people died in a day. This, clearly, was smallpox; and the Japanese started vaccination, which has been maintained by the American authorities.

The island, in 1953, was not overpopulated. The land surface of the atoll was about a half a square mile, so the population of 260 people would represent a density of about 520 persons per square mile: a rather dense population, but we must remember that the people of Ifaluk had also the resources of their lagoon and of the surrounding seas. Ifaluk seemed to me to represent an economy of abundance, and this probably in part explains the idyllic living conditions that prevailed. With more people, with the same resources and the same cultural equipment, life might have been more difficult and unpleasant.

The Ifalukians certainly seemed not only happy, but healthy. It is difficult to make exact comparisons between the Ifalukians and other people because of our uncertainty about precise ages, so that one is likely to be averaging fifteen-year-olds with thirty-year-olds. In general, however, the men seemed to be somewhat smaller and lighter than the American average. The tallest man of the island, Sepemal, was a half inch under six feet. The heaviest (Wolpaitig, the number